

IN THE ABSTRACT

Please replace the originally filed Abstract with the following Substitute Abstract:

---SUBSTITUTE ABSTRACT

A communication apparatus includes a reference signal generating section, a transmitting section, a propagation estimating section, a first data acquiring section, and a decoding section. The reference signal generating section generates a first reference signal to enable a communicating party to estimate a propagation environment. The transmitting section transmits the first reference signal. The propagation estimating section estimates a first propagation estimation value of the propagation environment using a second reference signal transmitted from the communicating party. The first data acquiring section generates first data using the first propagation estimation value. The decoding section decodes a transmission signal encoded using a second propagation estimation value that is estimated by the communicating party using the first reference signal, to obtain second data using the first data.---